



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,715	12/29/2005	Martin Hermann Weggen	3135-052069	9810
28289 7590 01/12/2009 THE WEBB LAW FIRM, P.C. 700 KOPPERS BUILDING 436 SEVENTH AVENUE PITTSBURGH, PA 15219				
EXAMINER				
SMOOT, STEPHEN W				
ART UNIT		PAPER NUMBER		
2813				
MAIL DATE		DELIVERY MODE		
01/12/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/541,715

**Applicant(s)**

WEGGEN ET AL.

**Examiner**

Stephen W. Smoot

**Art Unit**

2813

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 18-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

This Office action is in response to applicant's RCE filed on 22 December 2008.

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's amendment filed on 22 December 2008 has been entered.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 18-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Peters et al. (WO 01/17012 A1 – from applicant's IDS).

Referring to Figs. 1-4 and page 4, line 16 to page 5, line 26, Peters et al. disclose an encapsulating device (1, 15) for encapsulating an electronic component (6) mounted on a carrier (5) with encapsulating material (7, 13, 14). Further, the electronic component (6) can be a semiconductor as indicated on page 1, lines 3-4. The device (15) corresponding to the embodiment of Fig. 4 includes two displaceable co-acting upper mould (2) and lower mould (16, 17) parts that can be closed, as shown in Fig. 3, to define a cavity (4) for encapsulating the electronic component (6) with encapsulating material (14). The lower mould part (16, 17) includes a sleeve (16) rigidly linked with a holder strip (17). The holder member (17) further includes a chamfered end (11 in Fig. 2) (i.e. a projecting edge) that shields part of the carrier (5). The carrier (5) is supported on a third mould part (3) that is displaceable with respect to the lower mould part (16, 17) so that the shielded portion of the carrier (5) can be pressed against the chamfered end (11 in Fig. 2) when the mould is in a closed position for encapsulating as shown in Fig. 3. The encapsulating device (1, 15) includes a plunger (8, 9) for feeding liquid encapsulating material (13, 14) over the chamfered end (11 in Fig. 2) and into the mould cavity (4) via a runner (12) corresponding to the holder member (17). After partial curing of the liquid encapsulating material (13, 14), the upper mould part (2) and the third mould part can be moved apart to release the encapsulated package (5, 6, 14).

These are all of the structural limitations as set forth in claims 18-22 of the applicant's invention.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peters et al. (WO 01/17012 A1 – from applicant's IDS) as applied to claim 18 above, and further in view of Yoshihiro (JP 7-205214 A – from applicant's IDS).

As shown above, Peters et al. anticipate claim 18 of the applicant's invention. However, Peters et al. lack the further limitations to claim 18 as set forth in claims 23-24, which are at least one pressure element arranged in a mould part (the limitation of claim 23) and the pressure element being connected to a control member (the limitation of claim 24). Yoshihiro teaches a mould assembly that utilizes a spring in an upper mould part to separate a sealed package from a runner (see JPO abstract).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Peters et al. and Yoshihiro in order to use a spring, as taught by Yoshihiro, in the upper mould part of Peters et al. to

separate the at least partially cured encapsulating material (14) corresponding to the cavity (4) from the at least partially cured encapsulating material (13) corresponding to the runner (12). Yoshihiro recognizes that a cutting step can advantageously be combined with the step of opening the mould assembly and, thereby, be eliminated as a separate step that would otherwise be necessary after the moulding operation.

6. Claims 25, 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peters et al. (WO 01/17012 A1 – from applicant's IDS).

Referring to Figs. 1-4 and page 4, line 16 to page 5, line 26, Peters et al. disclose an encapsulating device (1, 15) for encapsulating an electronic component (6) mounted on a carrier (5) with encapsulating material (7, 13, 14). Further, the electronic component (6) component can be a semiconductor as indicated on page 1, lines 3-4. The device (15) corresponding to the embodiment of Fig. 4 includes two displaceable co-acting upper mould (2) and lower mould (16, 17) parts that can be closed, as shown in Fig. 3, to define a cavity (4) for encapsulating the electronic component (6) with encapsulating material (14). The lower mould part (16, 17) includes a sleeve (16) rigidly linked with a holder strip (17). The holder member (17) further includes a chamfered end (11 in Fig. 2) (i.e. a projecting edge) that shields part of the carrier (5). The carrier (5) is supported on a third mould part (3) that is displaceable with respect to the lower mould part (16, 17) so that the shielded portion of the carrier (5) can be pressed against the chamfered end (11 in Fig. 2) when the mould is in a closed position for encapsulating as shown in Fig. 3. The encapsulating device (1, 15) includes a plunger

(8, 9) for feeding liquid encapsulating material (13, 14) over the chamfered end (11 in Fig. 2) and into the mould cavity (4) via a runner (12) corresponding to the holder member (17). Also referring to page 3, line 17 to page 4, line 3, Peters et al. disclose an encapsulating method that includes placing the carrier (5) on the third mould part (3) (see Fig. 4), urging (i.e. clamping) part of the carrier (5) against the holder strip (17) (see Fig. 2), closing the upper mould part (2) against the holder strip (17) to define the mould cavity (4) (see Fig. 3), and feeding liquid encapsulating material (13, 14) into the cavity (4) (see Fig. 3). After at least partial curing of the encapsulating material (13, 14), the upper mould part is moved back to open the mould assembly and the holder member (17) is displaced relative to the third mould part (3) to release the carrier (5). These are limitations as set forth in claims 25, 27-28 of the applicant's invention.

However, Peters et al. lack the claim feature of claim 25 that requires moving the support part toward the projecting edge that is kept stationary. Instead, Peters et al. teach that the chamfered outer end (11) is moved toward the edge of the carrier (5) that is supported on the stationary third mould part (3) (see page 4, line 32 to page 5, line 2).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Peters et al. in order to move the third mould part (3) toward a stationary chamfered outer end (11) since it has been held that mere reversal of movement between parts is obvious [see *In re Gazda*, 219 F.2d 449, 104 USPQ 400 (CCPA 1955)].

7. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Peters et al. (WO 01/17012 A1 – from applicant's IDS) as applied to claim 25 above, and further in view of Shigeya (JP 7-80895 A – from applicant's IDS).

As shown above, claim 25 is unpatentable over Peters et al. However, Peters et al. do not expressly teach or suggest the step of rotating the carrier relative to the projecting edge, which is the further limitation to claim 25 as set forth in claim 26 of the applicant's invention. Shigeya teaches a moulding method that features cutting by rotating moulded products relative to runner portions (see JPO abstract).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Peters et al. by rotating the carrier relative the holder strip, as taught by Shigeya, because Shigeya recognizes that rotating is one known way to separate a moulded product from a runner by cutting.

### ***Response to Arguments***

8. Applicant's arguments regarding claims 18-24 filed on 22 December 2008 have been fully considered but they are not persuasive.

The applicant argues that Peters et al. lack the as claimed stationary relationship between the projecting edge and the first mould part. However, the holder member (17), the sleeve (16), and the chamfered edge (11) of Peters et al. meet the claim requirement of a stationary assembly because the chamfered edge (11) is not indicated



to be movable with respect to both the holder member (17) and the sleeve (16) during operation of the encapsulating device disclosed by Peters et al.

9. Applicant's arguments filed on 22 December 2008 with respect to the rejection of claims 25, 27-28 under 35 USC 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground of rejection is made in view of the legal precedent established by *In re Gazda*.

### ***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen W. Smoot whose telephone number is 571-272-1698. The examiner can normally be reached on Monday to Friday from 8:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S. Smith can be reached on 571-272-1907. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Stephen W Smoot/  
Primary Examiner  
Art Unit 2813

SWS